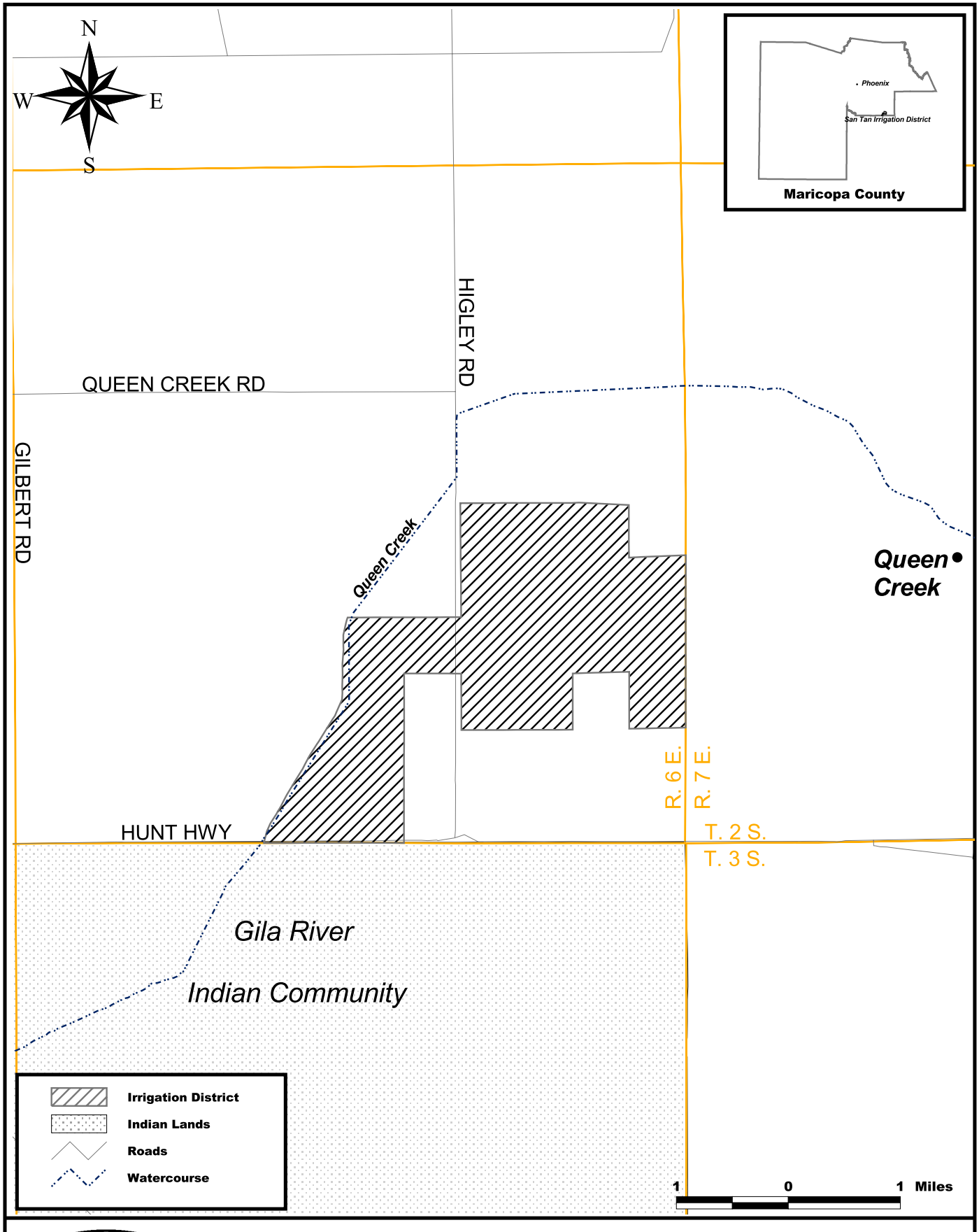
VIII. SAN TAN IRRIGATION DISTRICT

The San Tan Irrigation District (STID) was organized in 1955. It is located in Maricopa County north of the Gila River Indian Reservation and approximately 12 miles southeast of Chandler, as shown on Figure L-NIA-16. The STID owns 11 wells; there are no private wells in the service area. Also, the distribution system consists of 26 miles of lined pipe. Approximately 10,000 af of water are delivered to users by the district annually. One hundred percent of the water is used for irrigation. Nearly all of the 3,185 acres within the District are irrigated. The primary crop is citrus, followed by cotton and potatoes. In the STID service area in 1997, a total of 10,622 af of water was produced and delivered. Of that total, 5,760 af, or 54 percent, was from groundwater, and 4,862 af, or 46 percent, was from CAP.

VIII.A. CAP Water Allocation History

The STID entered into a contract with the United States and CAWCD for 0.77 percent of the available NIA pool, effective October 1, 1993. Had the 1992 NIA reallocation process been completed, STID's percentage of the available NIA pool would not have increased. In late 1993, San Carlos IDD entered into a two-party letter agreement with CAWCD under which STID and CAWCD "mutually agreed to waive certain rights and obligations under the Water Service Subcontract." The United States is challenging these agreements in ongoing litigation regarding operation of the CAP. Nevertheless, STID has contracted for CAP water pursuant to this agreement from the Ag Pools on an annual basis and at a rate reduced from the original contract requirements.

Under the Settlement Alternative, STID would voluntarily relinquish its allocation of CAP water in exchange primarily for debt relief and access to affordably priced CAP Ag Pool water for the next thirty years (see Chapter II for full description of all alternatives). Under all of the alternatives, STID would not receive an additional allocation. It should by noted that, even without an allocation, CAP water will continue to be available to STID from the Ag Pool, which is comprised of excess water. Under the Settlement Alternative, STID would receive 0.34 percent of the Ag Pool. Under all other alternatives, STID would receive 1.1 percent of the Ag Pool. Table L-NIA-28 outlines the proposed CAP allocation by alternative.



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CAP Allocation Draft EIS
General Location Map
San Tan Irrigation District

June 2000

Figure #L-NIA-16

Table L-NIA-28
CAP Allocation Draft EIS
STID – Proposed Additional CAP Allocation

Alternative	Additional Allocation[a] (in afa)	Priority
Settlement Alternative	0	-
No Action	0	-
Non-Settlement Alternative 1	0	-
Non-Settlement Alternative 2	0	-
Non-Settlement Alternative 3A	0	NIA
Non-Settlement Alternative 3B	0	-
Existing CAP Allocation	3,064[(b)]	NIA

Notes:
[a] All NIA allocations are percentages of the available NIA CAP water supply. They are converted to fixed af amounts only for ease of calculation in the draft EIS. See Appendix B for the calculation of NIA allocation numbers.
[b] Based on 0.77 percent of the available NIA CAP water supply. The status of this allocation is in dispute.

VIII.B. Water Demand and Supply Quantities

STID contains 2,832 CAP-eligible acres and 78 acres of CAP excess land. No new net acreage can be brought into production as a result of the 1980 GMA. Currently, STID uses approximately 4,598 afa of CAP water, of which 0 afa is provided as in-lieu groundwater recharge. Additionally, STID pumps 6,459 afa of groundwater. This water use pattern is based on a five-year average from 1994 to 1999. This water use pattern could change if acreage is taken out of production due to economic reasons or urbanization. Reductions in total water use reflect reductions in farmed acres due to water costs or the lack of access to CAP water.

In order to estimate impacts for the next fifty years, assumptions were made regarding the availability and pricing of CAP water for each alternative. These assumptions are fully described in Appendix A, Background Assumptions. Using the CAP water availability as a base, a model was developed (as described in Appendix D, Socioeconomic Analysis) to project water use and the number of cropped acres based on economic decisions. For example, the economic model predicts whether or not wheat will be grown, based on the marginal costs of growing wheat, given the prices and availability of water. The water uses projected by the economic model were incorporated into the groundwater model to verify STID's ability to pump and afford the projected groundwater to be used. Acreage was also decreased based on urbanization due to population growth.

VIII.C. Specific Construction-Related Impacts

No new water delivery facilities would be required with one exception. Under the Settlement Alternative, RRA restrictions may be lifted and STID may desire to build new facilities to deliver CAP water to previously ineligible lands. This possibility is considered speculative at this time and is beyond the scope of this EIS.

VIII.D. Environmental Effects

Since construction of water delivery facilities would not likely be required, the primary environmental impacts to STID would result from the availability of CAP water and its cost under the different alternatives.

VIII.D.1. Land Use

Table L-NIA-29 shows the land use pattern for years 2001 to 2051 within the STID area. The district is fully urbanized under all alternatives by 2043.

Table L-NIA-29
CAP Allocation Draft EIS
STID – Projected Agricultural Land Use
(Acres)

Alternative	Year	Land Farmed	Land Urbanized Per Time Step	Land Fallowed Due to Economic Reasons per Time Step
Settlement Alternative	2001	3,477	0	0
	2004	2,780	697	0
	2017	2,444	336	0
	2030	246	2,198	0
	2043	0	246	0
	2051	0	0	0
No Action	2001	3,477	0	0
	2004	2,780	697	0
	2017	2,444	336	0
	2030	246	2,198	0
	2043	0	246	0
	2051	0	0	0
Non-Settlement Alternative 1	2001	3,477	0	0
	2004	2,780	697	0
	2017	2,444	336	0
	2030	246	2,198	0
	2043	0	246	0
	2051	0	0	0
Non-Settlement Alternative 2	2001	3,477	0	0
	2004	2,780	697	0
	2017	2,444	336	0
	2030	246	2,198	0
	2043	0	246	0
	2051	0	0	0
Non-Settlement Alternative 3A	2001	3,477	0	0
	2004	2,780	697	0
	2017	2,444	336	0
	2030	246	2,198	0
	2043	0	246	0
	2051	0	0	0
Non-Settlement Alternative 3B	2001	3,477	0	0
	2004	2,780	697	0
	2017	2,444	336	0
	2030	246	2,198	0
	2043	0	246	0
	2051	0	0	0

VIII.D.2. Archaeological Resources

Four archaeological surveys have been conducted within this entity's boundaries; no sites have been recorded. However, the area's proximity to Pozos de Sonoqui, a major Hohokam village

complex with a ball court and platform mound, suggests associated cultural resources – such as artifact scatters, rock piles, and agricultural fields – might be present. The area's western boundary borders the Roosevelt Canal, a historic canal that is presently in use. The Roosevelt Canal, part of the RID, has been in operation since 1926 and is eligible for inclusion on the NRHP. Although the Roosevelt Canal is not expected to be impacted by the proposed undertaking, it is possible that sites related to its construction might be present in the area. It is not known whether this entity has a local historic preservation program. Cultural resource sensitivity areas in this entity are shown in Figure L-NIA-17. Based on the limited data used to generate the cultural sensitivity designations, the potential for cultural resource impacts in this entity is low. Urbanization of farmlands could impact any intact cultural deposits that might be preserved below the plow zone. Mitigation for these potential impacts would be determined by local jurisdictions. No impacts to cultural resources are expected from land fallowing.

VIII.D.3. Biological Resources

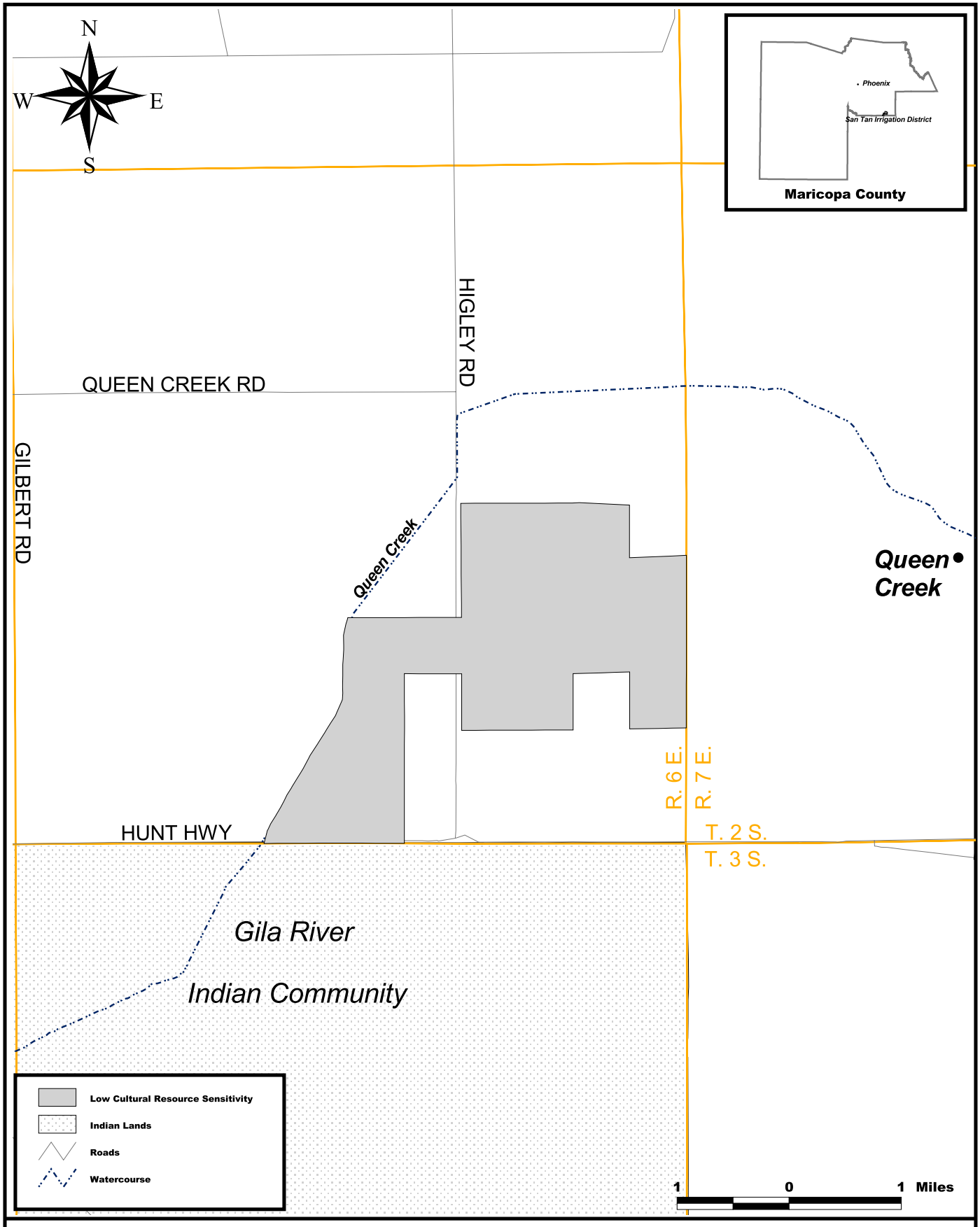
Table L-NIA-29 shows land use over the period of study by alternative. All agricultural land is converted to urban uses by 2043. When conversion of agricultural lands to urban use occurs, loss of natural habitat or wildlife is minimal. However, adjacent lands may contain wildlife that might be impacted such as burrowing owls, nests of local birds, and habitat for small mammals.

VIII.D.4. Water Resources

STID has met historical irrigation demands using groundwater, supplemented in later years with CAP water. Groundwater levels have declined historically in response to the groundwater pumping, and a groundwater level depression is located in the general vicinity of STID. The TDS concentration of groundwater ranges generally from about 500 to 1,000 ppm. This area has experienced subsidence historically, due to the groundwater level declines.

Presented in Table L-NIA-30 are estimated changes in groundwater levels from 2001 to 2051 and estimated groundwater level impacts for each alternative. Under the No Action Alternative, groundwater levels rise by about 44 feet through about 2051. This rise in groundwater levels reflects the interplay of a number of factors, including urbanization and changes in irrigated acreage in QCID (located adjacent to STID) due to economic considerations. The rise in groundwater levels would likely cause a reduction in pumping costs. The rise in groundwater levels would tend to eliminate subsidence. Also, the groundwater level rise in this area would eliminate the current local groundwater depression, which would tend to improve groundwater quality.

Groundwater levels in year 2051 under the Settlement Alternative and all Non-Settlement Alternatives would be lower than under the No Action Alternative, except for Alternative 1. As with the No Action Alternative, these groundwater levels reflect a number of different factors, including urbanization and changes in irrigated acres in the adjacent QCID due to economic considerations. There would be the potential for subsidence under the Settlement Alternative and Non-Settlement Alternatives 2 and 3A, due to the lower groundwater levels. There would also be the potential for adverse groundwater quality impacts under the Settlement Alternative, as a groundwater level depression would remain in the vicinity of STID.



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CAP Allocation Draft EIS
Cultural Resources
San Tan Irrigation District

June 2000

Figure #L-NIA-17

Table L-NIA-30
CAP Allocation Draft EIS
STID – Groundwater Data Table

Alternative	STID*	
	Estimated Groundwater Level Change from 2001-2051 (in feet)	Groundwater Level Impact** (in feet)
No Action	44	--
Settlement Alternative	-18	-62
Non-Settlement Alternative 1	53	+8
Non-Settlement Alternative 2	-31	-75
Non-Settlement Alternative 3A	-27	-71
Non-Settlement Alternative 3B	1	-44

* Values correspond to the QCID.

** Computed by subtracting the estimated groundwater decline from 2001 to 2051 for the No Action Alternative from the estimated change in groundwater level for the same period for the alternative under consideration. The estimated impact is considered to be more accurate than the estimated decline in groundwater levels.

VIII.D.5. Socioeconomic

STID was excluded in the economic analysis because predominantly high-values crops are cultivated in STID that are not sensitive to the range of water prices examined in this study. No crop acreage is projected to go out of production due to increases in water prices. Therefore, no socioeconomic impacts associated with the CAP reallocation strategies analyzed in this EIS were analyzed for this irrigation district.